INDEX TO AUTHORS.

A

Austin, J. Harold, Stadie, William C., and **Robinson, Howard W.** The relation between colorimetric reading and true pH of serum or plasma, 505

—. See STADIE, AUSTIN, and ROBINSON, 901

B

Barkus, Otakar. See MORGULIS, 353

Bell, Marion. See BLATHERWICK, BELL, HILL, and LONG, 801

Benedict, Ethel M. See WEST and BENEDICT, 139

Benedict, Francis G., and **Fox, Edward L.** A method for the determination of the energy values of foods and excreta, 783

Bills, Charles E. Antiricketic substances. II. The action of *n*-butyl nitrite on activated cholesterol and the antiricketic vitamin, 451

Bisbey, Bertha. See ROSE and MACLEOD, 847

Bishop, G. H., Briggs, A. P., and **Ronzoni, E.** Body fluids of the honey bee larva. II. Chemical constituents of the blood, and their osmotic effects, 77

Black, Archie. See STEENBOCK, HART, HOPPERT, and BLACK, 441

Blatherwick, N. R., Bell, Marion, Hill, Elsie, and **Long, M. Louisa.** The excretion of normal urine sugar, 801

Blunt, Katharine. See CHANEY and BLUNT, 829

Briggs, A. P. See BISHOP, BRIGGS, and RONZONI, 77

—. See WEBER, BRIGGS, and DOISY, 653

C

Cajori, F. A., Crouter, C. Y., and **Pemberton, Ralph.** The effect of changes in the circulation on carbohydrate utilization, 89

Cappel, Powel B. See GRIFFITH and CAPPEL, 683

Cartland, George F., and **Hart, Merrill C.** The chemical investigations of corpus luteum. IV. The acetone-soluble fat, 619

Chaney, Margaret S., and **Blunt, Katharine.** The effect of orange juice on the calcium, phosphorus, magnesium, and nitrogen retention and urinary organic acids of growing children, 829

Clark, E. P. See COLLIP and CLARK, 133
Clark, Guy W., and **Sharp, Paul W.** The properties and composition of oocytin. II, 123
Collip, J. B., and **Clark, E. P.** Further studies on the parathyroid hormone. Second paper, 133
Cori, Carl F. The fate of sugar in the animal body. I. The rate of absorption of hexoses and pentoses from the intestinal tract, 691
Corley, R. C., and **Denis, W.** The determination of calcium in tissues, feces, and milk, 601
—. See DENIS and CORLEY, 609
Cowgill, George R. See SMITH, COWGILL, and CROLL, 15
Creighton, Mattie. See DUTCHER, CREIGHTON, and ROTHROCK, 401
Croll, Hilda M. See SMITH, COWGILL, and CROLL, 15
Crouter, C. Y. See CAJORI, CROUTER, and PEMBERTON, 89
Cullen, Glenn E., Keeler, H. R., and **Robinson, Howard W.** The pK′ of the Henderson-Hasselbalch equation for hydrion concentration of serum, 301

D

Denis, W., and **Corley, R. C.** A study of the effect of excessive calcium ingestion on the calcium content of tissues with and without the application of ultra-violet light, 609
—. See CORLEY and DENIS, 601
Doisy, Edward A. See WEBER, BRIGGS, and DOISY, 653
Dunn, L. C. See PAPPENHEIMER and DUNN, 717
Dutcher, R. Adams, Creighton, Mattie, and **Rothrock, Henry A.** Vitamin studies. XI. Inorganic blood phosphorus and bone ash in rats fed on normal, rachitic, and irradiated rachitic diets, 401

E

Edwards, A. C. See MORGULIS, 353
Ellis, N. R., and **Hankins, O. G.** Soft pork studies. I. Formation of fat in the pig on a ration moderately low in fat, 101
Elvehjem, C. A. See STEENBOCK, HART, ELVEHJEM, and KLETZIEN, 425

F

Fiske, Cyrus H., and **Subbarrow, Yellapragada.** The colorimetric determination of phosphorus, 375
Fox, Edward L. See BENEDICT and FOX, 783
Frazier, W. C. See LEPKOVSKY, HART, HASTINGS, and FRAZIER, 49

G

Gaebler, Oliver Henry, and **Murlin, John R.** The influence of insulin, administered orally and sub-

cutaneously, in phlorhizin diabetes, 731
Gittleman, I. See HOLT, 23
Greenwald, Isidor, and **Gross, Joseph.** The effect of the administration of a potent parathyroid extract upon the excretion of nitrogen, phosphorus, calcium, and magnesium, with some remarks on the solubility of calcium phosphate in serum and on the pathogenesis of tetany, 217
— and —. The effect of thyroparathyroidectomy in dogs upon the excretion of calcium, phosphorus, and magnesium, 185
— and —. The excretion of calcium, phosphorus, and magnesium after the injection of calcium chloride, sodium phosphate, or both, 201
Griffith, Wendell H. Benzoylated amino acids in the animal organism. I. The behavior of hippuric acid following its oral administration, 671
— and **Cappel, Powel B.** Benzoylated amino acids in the animal organism. II. The hydrolysis of hippuric acid in the alimentary canal of the rabbit, 683
Gross, Joseph. See GREENWALD and GROSS, 185
—. See GREENWALD and GROSS, 201
—. See GREENWALD and GROSS, 217

H

Halpin, J. G. See HART, STEENBOCK, LEPKOVSKY, and HALPIN, 813
Hanke, Milton T. The histidine and tyrosine content of a number of proteins, 489
—. The quantitative estimation of tyrosine and histidine in protein. A method for estimating tyramine in protein-containing mixtures, 475
— and **Koessler, Karl K.** A continuous dialysis or extraction apparatus which operates at reduced pressure with a constant volume of liquid, 495
Hankins, O. G. See ELLIS and HANKINS, 101
Harned, Ben K. See NASH, 869
Hart, E. B., Steenbock, H., Lepkovsky, S., and **Halpin, J. G.** The nutritional requirement of the chicken. VI. Does the chicken require vitamin C? 813
—. See LEPKOVSKY, HART, HASTINGS, and FRAZIER, 49
—. See STEENBOCK, HART, ELVEHJEM, and KLETZIEN, 425
—. See STEENBOCK, HART, HOPPERT, and BLACK, 441
Hart, Merrill C., and **Heyl, Frederick W.** The chemical investigations of corpus luteum. V. The lipoids of the acetone extract, 639
—. See CARTLAND and HART, 619

Hastings, E. G. See LEPKOVSKY, HART, HASTINGS, and FRAZIER, 49

Hess, Alfred F., Weinstock, Mildred, and **Sherman, Elizabeth.** The antirachitic value of irradiated cholesterol and phytosterol. IV. Factors influencing its biological activity, 145

Heukelekian, H., and **Waksman, Selman A.** Carbon and nitrogen transformations in the decomposition of cellulose by filamentous fungi, 323

Heyl, Frederick W. See HART and HEYL, 639

Hill, Elsie. See BLATHERWICK, BELL, HILL, and LONG, 801

Hoffman, Walter F. An alcohol-soluble protein isolated from polished rice, 501

Holt, L. Emmett, Jr. The solubility of tertiary calcium phosphate in cerebrospinal fluid, 23

Hoppert, C. A. See STEENBOCK, HART, HOPPERT, and BLACK, 441

Hughes, J. S., Payne, L. F., Titus, R. W., and **Moore, J. M.** The relation between the amount of ultra-violet light received by hens and the amount of antirachitic vitamin in the eggs produced, 595

Hughes, T. P. See PETERSEN and HUGHES, 229

K

Karr, Walter G. See DU VIGNEAUD and KARR, 281

Keeler, H. R. See CULLEN, KEELER, and ROBINSON, 301

Kletzien, S. W. F. See STEENBOCK, HART, ELVEHJEM, and KLETZIEN, 425

Knudson, Arthur. See RANDLES and KNUDSON, 459

Koessler, Karl K. See HANKE and KOESSLER, 495

L

Lennox, William G. A study of the retention of uric acid during fasting, 521

Lepkovsky, S., Hart, E. B., Hastings, E. G., and **Frazier, W. C.** The effect of fermentation with specific microorganisms on the vitamin C content of orange and tomato juice, 49

—. See HART, STEENBOCK, LEPKOVSKY, and HALPIN, 813

Levine, Samuel Z. See RICHARDSON and LEVINE, 161

Lewis, Julian H., and **Wells, H. Gideon.** The immunological properties of alcohol-soluble vegetable proteins. IX. The biological reactions of the vegetable proteins, 37

Long, M. Louisa. See BLATHERWICK, BELL, HILL, and LONG, 801

M

MacLeod, Grace. See ROSE and MACLEOD, 847

McDonald, Francis G. See BILLS, 451

McQuarrie, Irvine, and **Shohl, A. T.** A colorimetric method for the determination of the pH of cerebrospinal fluid, 367

Moore, J. M. See HUGHES, PAYNE, TITUS, and MOORE, 595

Morgan, Agnes Fay, and **Osburn, Dorothy F.** The effect of vitamin A deficiency upon the character of nitrogen metabolism, 573

Morgulis, Sergius. Blood changes during digestion with special reference to urea formation, 353

Moritz, Alan R. The state of the serum calcium in experimental hypo- and hypercalcemia, 343

Murlin, John R. See GAEBLER and MURLIN, 731

N

Nash, Thomas P., Jr. Insulin and phlorhizin diabetes. Second paper. With some further observations on the mechanism of phlorhizin diabetes, 869

O

O'Connor, Marie. See LENNOX, 521

Osburn, Dorothy F. See MORGAN and OSBURN, 573

P

Pappenheimer, A. M., and **Dunn, L. C.** The relation of leg weakness in growing chicks to mammalian rickets, 717

Payne, L. F. See HUGHES, PAYNE, TITUS, and MOORE, 595

Pemberton, Ralph. See CAJORI, CROUTER, and PEMBERTON, 89

Petersen, W. F., and **Hughes, T. P.** Mineral metabolism of the lymph following injections of levo- and dextro-suprarenin, pituitrin, and pilocarpine, 229

R

Randles, F. S., and **Knudson, Arthur.** Studies on cholesterol. I. Synthesis of cholesterol in the animal body, 459

Reinhard, Melvin. See STENSTRÖM and REINHARD, 819

Richards, A. M. See WEARN and RICHARDS, 247

—. See WEARN and RICHARDS, 275

Richardson, Henry B., and **Levine, Samuel Z.** Clinical calorimetry. XXXIX. Exercise and the respiratory quotient in diabetes, 161

Riising, Blanche M. See STEENBOCK, HART, ELVEHJEM, and KLETZIEN, 425

Robinson, C. S. The use of the quinhydrone electrode for the determination of the hydrion concentration of feces, 811

Robinson, Howard W. See AUSTIN, STADIE, and ROBINSON, 505

—. See CULLEN, KEELER, and ROBINSON, 301

Robinson, Howard W. See STADIE, AUSTIN, and ROBINSON, 901
Ronzoni, E. See BISHOP, BRIGGS, and RONZONI, 77
Rose, Mary Swartz, and **MacLeod, Grace.** Maintenance values for the proteins of milk, meat, bread and milk, and soy bean curd, 847
Rothrock, Henry A. See DUTCHER, CREIGHTON, and ROTHROCK, 401

S

Sharp, Paul W. See CLARK and SHARP, 123
Sherman, Elizabeth. See HESS, WEINSTOCK, and SHERMAN, 145
Sherman, H. C., and **Woods, Ella.** The determination of cystine by means of feeding experiments, 29
Shohl, A. T. See MCQUARRIE and SHOHL, 367
Shonle, Horace A., and **Waldo, John H.** The destructive action of acids, alkalies, and enzymes on insulin, 467
Smith, Arthur H., Cowgill, George R., and **Croll, Hilda M.** A note on the technique for studying vitamin B, 15
Soderstrom, G. F. See RICHARDSON and LEVINE, 161
Stadie, William C., Austin, J. Harold, and **Robinson, Howard W.** The effect of temperature on the acid-base-protein equilibrium and its influence on the CO_2 absorption curve of whole blood, true and separated serum, 901
—. See AUSTIN, STADIE, and ROBINSON, 505
Steenbock, H., Hart, E. B., Elvehjem, C. A., and **Kletzien, S. W. F.** Dietary factors influencing calcium assimilation. VI. The antirachitic properties of hays as related to climatic conditions with some observations on the effect of irradiation with ultra-violet light, 425
—, —, **Hoppert, C. A.,** and **Black, Archie.** Fat-soluble vitamin. XXVI. The antirachitic property of milk and its increase by direct irradiation and by irradiation of the animal, 441
—. See HART, STEENBOCK, LEPKOVSKY, and HALPIN, 813
Stenström, Wilhelm, and **Reinhard, Melvin.** Ultra-violet absorption spectra of blood serum and certain amino acids, 819
Stiebeling, Hazel. See ROSE and MACLEOD, 847
Stone, Harriet. See ROSE and MACLEOD, 847
Subbarow, Yellapragada. See FISKE and SUBBAROW, 375

T

Thomas, Grace. See MORGULIS, 353
Titus, R. W. See HUGHES, PAYNE, TITUS, and MOORE, 595

Tyler, Margaret, and **Underhill, Frank P.** The influence of pregnancy upon the lipoids of the blood, 1

U

Underhill, Frank P. See TYLER and UNDERHILL, 1

V

Van Slyke, Donald D. The determination of gases in blood and other solutions by vacuum extraction and manometric measurement. III. Gasometric determination of methemoglobin, 409

— and **Vollmund, Erik.** Studies of methemoglobin formation, 415

du Vigneaud, Vincent, and **Karr, Walter G.** Carbohydrate utilization. I. Rate of disappearance of *d*-glucose from the blood, 281

Vollmund, Erik. See VAN SLYKE and VOLLMUND, 415

W

Waksman, Selman A. See HEUKELEKIAN and WAKSMAN, 323

Waldo, John H. See SHONLE and WALDO, 467

Wearn, J. T., and **Richards, A. M.** The concentration of chlorides in the glomerular urine of frogs, 247

— and —. Quantitative estimation of minute amounts of urea, 275

Weber, C. J., Briggs, A. P., and **Doisy, Edward A.** The formation of lactic acid by depancreatized dogs, 653

Weinstock, Mildred. See HESS, WEINSTOCK, and SHERMAN, 145

Wells, H. Gideon. See LEWIS and WELLS, 37

Wendel, William B. See NASH, 869

West, Edward S. Condensation products of acetoacetic ester. II. Oxidation and possible relationship to antiketogenesis in the animal body, 63

West, R., and Benedict, Ethel M. The influence of ι-hydroxystearic ethyl ester on acidosis, 139

Woods, Ella. Some observations upon the rôle of cystine and certain mineral elements in nutrition, 57

—. See SHERMAN and WOODS, 29

Y

Yen, Daisy. See ROSE and MACLEOD, 847

INDEX TO SUBJECTS.

A

Absorption:
Curve, carbon dioxide, of separated serum, influence of temperature (STADIE, AUSTIN, and ROBINSON) 901
—, — —, of true serum, influence of temperature (STADIE, AUSTIN, and ROBINSON) 901
—, — —, of whole blood, influence of temperature (STADIE, AUSTIN, and ROBINSON) 901
Hexose, from intestinal tract (CORI) 691
Pentose, from intestinal tract (CORI) 691
Spectrum, ultra-violet, of amino acids (STENSTRÖM and REINHARD) 819
—, —, — serum (STENSTRÖM and REINHARD) 819
Acetoacetic ester(s):
Condensation products. II (WEST) 63
Acetone:
Extract, lipoids (HART and HEYL) 639
Fat, acetone-soluble (CARTLAND and HART) 619
Acid(s):
-base-protein equilibrium, effect of temperature (STADIE, AUSTIN, and ROBINSON) 901
Acid(s)—*continued:*
Insulin, destructive action on (SHONLE and WALDO) 467
Urinary organic, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Acidosis:
ι-Hydroxystearic ethyl ester, influence of, on (WEST and BENEDICT) 139
Alcohol:
Protein, alcohol-soluble, isolated from polished rice (HOFFMAN) 501
Vegetable protein, alcohol-soluble, immunological properties. IX (LEWIS and WELLS) 37
Alimentary canal:
Hippuric acid, hydrolysis (GRIFFITH and CAPPEL) 683
Alkali:
Insulin, destructive action on (SHONLE and WALDO) 467
Amino acid(s):
Benzoylated, in animal organism. I (GRIFFITH) 671
—, — — —. II (GRIFFITH and CAPPEL) 683
Spectrum, ultra-violet absorption (STENSTRÖM and REINHARD) 819

Apparatus:
Dialysis, operates at reduced pressure with constant liquid volume (HANKE and KOESSLER) 495
Extraction, operates at reduced pressure with constant liquid volume (HANKE and KOESSLER) 495
Ash:
Bone, with irradiated rachitic diet (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, — normal diet (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, — rachitic diet (DUTCHER, CREIGHTON, and ROTHROCK) 401
Assimilation:
Calcium, dietary factors influencing. VI (STEENBOCK, HART, ELVEHJEM, and KLETZIEN) 425

B

Base:
Equilibrium, acid-base-protein, effect of temperature (STADIE, AUSTIN, and ROBINSON) 901
Bee:
Larva, body fluids. II (BISHOP, BRIGGS, and RONZONI) 77
Benzoate:
Amino acid, benzoylated, in animal organism. I (GRIFFITH) 671
Biology:
Cholesterol, irradiated (HESS, WEINSTOCK, and SHERMAN) 145
Biology—*continued:*
Phytosterol, irradiated (HESS, WEINSTOCK, and SHERMAN) 145
Protein, vegetable, biological reactions (LEWIS and WELLS) 37
Blood:
Bee larva, chemical constituents, and their osmotic effects (BISHOP, BRIGGS, and RONZONI) 77
Carbon dioxide absorption curve of whole, influence of temperature (STADIE, AUSTIN, and ROBINSON) 901
Digestion, changes during, with reference to urea formation (MORGULIS) 353
Gas, determination by manometric measurement. III (VAN SLYKE) 409
—, — — vacuum extraction. III (VAN SLYKE) 409
d-Glucose, rate of disappearance from (DU VIGNEAUD and KARR) 281
Lipoid, influence of pregnancy (TYLER and UNDERHILL) 1
Phosphorus, inorganic, with irradiated rachitic diet (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, —, — normal diet (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, —, — rachitic diet (DUTCHER, CREIGHTON, and ROTHROCK) 401

Blood—*continued:*
Serum. *See* Serum.
Bone:
Ash, with irradiated rachitic diet (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, — normal diet (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, — rachitic diet (DUTCHER, CREIGHTON, and ROTHROCK) 401
Bread:
Milk and, proteins, maintenance values (ROSE and MACLEOD) 847
***n*-Butyl nitrite:**
Cholesterol, activated, action on, of (BILLS) 451
Vitamin, antiricketic, action on, of (BILLS) 451

C

Calcium:
Assimilation, dietary factors influencing. VI (STEENBOCK, HART, ELVEHJEM, and KLETZIEN) 425
Excretion, after calcium chloride injection (GREENWALD and GROSS) 201
—, — — — and sodium phosphate injections (GREENWALD and GROSS) 201
—, — sodium phosphate injection (GREENWALD and GROSS) 201
—, — thyroparathyroidectomy (GREENWALD and GROSS) 185
Calcium—*continued:*
Excretion, effect of parathyroid extract (GREENWALD and GROSS) 217
Feces, determination (CORLEY and DENIS) 601
Ingestion, excessive, effect on calcium content of tissues without ultra-violet light (DENIS and CORLEY) 609
—, —, — — calcium content of tissues with ultra-violet light (DENIS and CORLEY) 609
Milk, determination (CORLEY and DENIS) 601
Retention, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Serum, in hypercalcemia (MORITZ) 343
—, — hypocalcemia (MORITZ) 343
Tissue, content, without ultra-violet light, effect of excessive calcium ingestion (DENIS and CORLEY) 609
—, —, with ultra-violet light, effect of excessive calcium ingestion (DENIS and CORLEY) 609
—, determination (CORLEY and DENIS) 601
Calcium chloride:
Calcium excretion after injection (GREENWALD and GROSS) 201
— — — injection of sodium phosphate and (GREENWALD and GROSS) 201

Calcium chloride—*continued:*
Magnesium excretion after injection (GREENWALD and GROSS) 201
— — — injection of sodium phosphate and (GREENWALD and GROSS) 201
Phosphorus excretion after injection (GREENWALD and GROSS) 201
— — — injection of sodium phosphate and (GREENWALD and GROSS) 201
Calcium phosphate:
Serum, solubility in (GREENWALD and GROSS) 217
Tertiary, solubility in cerebrospinal fluid (HOLT) 23
Calorimetry:
Clinical. XXXIX (RICHARDSON and LEVINE) 161
Carbohydrate:
Utilization. I (DU VIGNEAUD and KARR) 281
—, effect of changes in circulation (CAJORI, Crouter, and PEMBERTON) 89
Carbon:
Cellulose decomposition, transformation in, by filamentous fungi (HEUKELEKIAN and WAKSMAN) 323
Carbon dioxide:
Blood, whole, absorption curve, influence of temperature (STADIE, AUSTIN, and ROBINSON) 901
Serum, separated, absorption curve, influence of temperature (STADIE, AUSTIN, and ROBINSON) 901
—, true, absorption curve, influence of temperature (STADIE, AUSTIN, and ROBINSON) 901
Cellulose:
Carbon transformation in decomposition, by filamentous fungi (HEUKELEKIAN and WAKSMAN) 323
Nitrogen transformation in decomposition, by filamentous fungi (HEUKELEKIAN and WAKSMAN) 323
Cerebrospinal fluid:
See Fluid.
Chicken:
Leg weakness in growing, relation to mammalian rickets (PAPPENHEIMER and DUNN) 717
Nutrition, requirement. VI (HART, STEENBOCK, LEPKOVSKY, and HALPIN) 813
Ultra-violet light, amount received by hens, amount of antirachitic vitamin in eggs produced, relation (HUGHES, PAYNE, TITUS, and MOORE) 595
Vitamin C, requirement (HART, STEENBOCK, LEPKOVSKY, and HALPIN) 813
Child:
Calcium retention, effect of orange juice on growing (CHANEY and BLUNT) 829

Child—*continued:*
Magnesium retention, effect of orange juice on growing (CHANEY and BLUNT) 829
Nitrogen retention, effect of orange juice on growing (CHANEY and BLUNT) 829
Phosphorus retention, effect of orange juice on growing (CHANEY and BLUNT) 829
Urinary organic acid, effect of orange juice on growing (CHANEY and BLUNT) 829
Chloride(s):
Glomerular urine of frogs, concentration (WEARN and RICHARDS) 247
Cholesterol:
I (RANDLES and KNUDSON) 459
Body, animal, synthesis in (RANDLES and KNUDSON) 459
n-Butyl nitrite, action on activated (BILLS) 451
Irradiation, antirachitic value. IV (HESS, WEINSTOCK, and SHERMAN) 145
Circulation:
Carbohydrate utilization, effect of changes in (CAJORI, CROUTER, and PEMBERTON) 89
Colorimetry:
Hydrogen ion concentration of cerebrospinal fluid (McQUARRIE and SHOHL) 367
Phosphorus (FISKE and SUBBAROW) 375
Plasma, true hydrogen ion concentration, colorimetric reading, relation (AUSTIN, STADIE, and ROBINSON) 505
Serum, true hydrogen ion concentration, colorimetric reading, relation (AUSTIN, STADIE, and ROBINSON) 505
Corpus luteum:
Chemical investigations. IV (CARTLAND and HART) 619
— —. V (HART and HEYL) 639
Cystine:
Feeding experiments, determination by (SHERMAN and WOODS) 29
Mineral elements and, in nutrition (WOODS) 57

D

Dextro-suprarenin:
Metabolism, mineral, of lymph after injection (PETERSEN and HUGHES) 229
Diabetes:
Exercise (RICHARDSON and LEVINE) 161
Phlorhizin, influence of insulin. II (NASH) 869
—, — — — administered orally (GAEBLER and MURLIN) 731
—, — — — administered subcutaneously (GAEBLER and MURLIN) 731
—, mechanism (NASH) 869

Diabetes—*continued:*
Respiratory quotient in (RICHARDSON and LEVINE) 161
Dialysis:
Apparatus, operates at reduced pressure with constant liquid volume (HANKE and KOESSLER) 495
Diet:
Calcium assimilation, dietary factors influencing. VI (STEENBOCK, HART, ELVEHJEM, and KLETZIEN) 425
Normal, bone ash with (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, inorganic blood phosphorus with (DUTCHER, CREIGHTON, and ROTHROCK) 401
Rachitic, bone ash with (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, inorganic blood phosphorus with (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, irradiated, bone ash with (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, —, inorganic blood phosphorus with (DUTCHER, CREIGHTON, and ROTHROCK) 401
Digestion:
Blood changes during, with reference to urea formation (MORGULIS) 353

E

Egg:
Vitamin, antirachitic, in eggs produced, amount of ultra-violet light received by hens, relation (HUGHES, PAYNE, TITUS, and MOORE) 595
Electrode:
Quinhydrone, hydrion concentration of feces determined by (ROBINSON) 811
Energy:
Excreta, value (BENEDICT and FOX) 783
Food, value (BENEDICT and FOX) 783
Enzyme:
Insulin, destructive action on (SHONLE and WALDO) 467
Equilibrium:
Acid-base-protein, effect of temperature (STADIE, AUSTIN, and ROBINSON) 901
Ester(s):
Acetoacetic, condensation products. II (WEST) 63
ι-Hydroxystearic ethyl, influence on acidosis (WEST and BENEDICT) 139
Excreta:
Energy value (BENEDICT and FOX) 783
Excretion:
Calcium, after calcium chloride injection (GREENWALD and GROSS) 201
—, — — — and sodium phosphate injections (GREENWALD and GROSS) 201

Excretion—*continued:*
Calcium, after sodium phosphate injection (GREENWALD and GROSS) 201
—, — thyroparathyroidectomy (GREENWALD and GROSS) 185
—, effect of parathyroid extract (GREENWALD and GROSS) 217
Magnesium, after calcium chloride injection (GREENWALD and GROSS) 201
—, — — — and sodium phosphate injections (GREENWALD and GROSS) 201
—, — sodium phosphate injection (GREENWALD and GROSS) 201
—, — thyroparathyroidectomy (GREENWALD and GROSS) 185
—, effect of parathyroid extract (GREENWALD and GROSS) 217
Nitrogen, effect of parathyroid extract (GREENWALD and GROSS) 217
Phosphorus, after calcium chloride injection (GREENWALD and GROSS) 201
—, — — — and sodium phosphate injections (GREENWALD and GROSS) 201
—, — sodium phosphate injection (GREENWALD and GROSS) 201
—, — thyroparathyroidectomy (GREENWALD and GROSS) 185
—, effect of parathyroid extract (GREENWALD and GROSS) 217
Urine sugar, normal (BLATHERWICK, BELL, HILL, and LONG) 801

Exercise:
Diabetes (RICHARDSON and LEVINE) 161

Extract:
Acetone, lipoids (HART and HEYL) 639
Parathyroid, effect on calcium excretion (GREENWALD and GROSS) 217
—, — — magnesium excretion (GREENWALD and GROSS) 217
—, — — nitrogen excretion (GREENWALD and GROSS) 217
—, — — phosphorus excretion (GREENWALD and GROSS) 217

Extraction:
Apparatus, operates at reduced pressure with constant liquid volume (HANKE and KOESSLER) 495
Vacuum, gases in blood, determination by. III (VAN SLYKE) 409

F

Fasting:
Uric acid retention during (LENNOX) 521

Fat:
Acetone-soluble (CARTLAND and HART) 619
Pig, formation in, on a ration moderately low in

Fat—*continued:*
fat (ELLIS and HANKINS) 101
Vitamin, fat-soluble. XXVI (STEENBOCK, HART, HOPPERT, and BLACK) 441
Feces:
Calcium, determination (CORLEY and DENIS) 601
Hydrogen ion concentration, quinhydrone electrode determination (ROBINSON) 811
Fermentation:
Orange juice, vitamin C content, effect with specific microorganisms (LEPKOVSKY, HART, HASTINGS, and FRAZIER) 49
Tomato juice, vitamin C content, effect with specific microorganisms (LEPKOVSKY, HART, HASTINGS, and FRAZIER) 49
Filament:
Fungus, filamentous, cellulose decomposition by, carbon transformation in (HEUKELEKIAN and WAKSMAN) 323
—, —, — decomposition by, nitrogen transformation in (HEUKELEKIAN and WAKSMAN) 323
Fluid:
Cerebrospinal, hydrogen ion concentration, colorimetric determination (McQUARRIE and SHOHL) 367
—, tertiary calcium phosphate in, solubility (HOLT) 23
Food:
Energy value (BENEDICT and FOX) 783
Frog:
Glomerular urine, chloride concentration in (WEARN and RICHARDS) 247
Fungus:
Filamentous, cellulose decomposition by, carbon transformation in (HEUKELEKIAN and WAKSMAN) 323
—, — — —, nitrogen transformation in (HEUKELEKIAN and WAKSMAN) 323

G

Gas:
Blood, determination by manometric measurement. III (VAN SLYKE) 409
—, — — vacuum extraction. III (VAN SLYKE) 409
Glomerulus:
Urine, of frogs, chloride concentration in (WEARN and RICHARDS) 247
d-**Glucose:**
Blood, rate of disappearance from (DU VIGNEAUD and KARR) 281

H

Hay:
Antirachitic properties, climatic conditions, relation (STEENBOCK, HART, ELVEHJEM, and KLETZIEN) 425
— —, effect of irradiation

Hay—*continued:*
with ultra-violet light (STEENBOCK, HART, ELVEHJEM, and KLETZIEN) 425
Henderson-Hasselbalch:
Equation, pK′, for hydrion concentration of serum (CULLEN, KEELER, and ROBINSON) 301
Hexose:
Absorption from intestinal tract (CORI) 691
Hippuric acid:
Hydrolysis, in alimentary canal (GRIFFITH and CAPPEL) 683
Oral administration, behavior following (GRIFFITH) 671
Histidine:
Protein, content (HANKE) 489
—, quantitative estimation (HANKE) 475
Hormone:
Parathyroid. II (COLLIP and CLARK) 133
Hydrogen:
Ion concentration of cerebrospinal fluid, colorimetric determination (MCQUARRIE and SHOHL) 367
— — — feces, quinhydrone electrode determination (ROBINSON) 811
— — — serum, pK′ of Henderson-Hasselbalch equation for (CULLEN, KEELER, and ROBINSON) 301
— —, true, of plasma, colorimetric reading, relation (AUSTIN, STADIE, and ROBINSON) 505
— —, —, of serum, colorimetric reading, relation (AUSTIN, STADIE, and ROBINSON) 505
Hydrolysis:
Hippuric acid, in alimentary canal (GRIFFITH and CAPPEL) 683
ι-Hydroxystearic ethyl ester(s):
Acidosis, influence on, of (WEST and BENEDICT) 139
Hypercalcemia:
Serum calcium in (MORITZ) 343
Hypocalcemia:
Serum calcium in (MORITZ) 343

I

Immunology:
Vegetable proteins, alcohol-soluble, immunological properties. IX (LEWIS and WELLS) 37
Insulin:
Acid, destructive action (SHONLE and WALDO) 467
Alkali, destructive action (SHONLE and WALDO) 467
Enzyme, destructive action (SHONLE and WALDO) 467
Phlorhizin diabetes, influence in, administered orally (GAEBLER and MURLIN) 731
— —, — —, administered

Insulin—*continued:*
subcutaneously (GAEBLER and MURLIN) 731
Phlorhizin diabetes, influence on, of. II (NASH) 869
Intestinal tract:
Hexose, absorption from (CORI) 691
Pentose, absorption from (CORI) 691
Ion:
Hydrogen, concentration, of cerebrospinal fluid, colorimetric determination (MCQUARRIE and SHOHL) 367
—, —, — feces, quinhydrone electrode determination (ROBINSON) 811
—, —, — serum, pK′ of Henderson - Hasselbalch equation for (CULLEN, KEELER, and ROBINSON) 301
—, —, true, of plasma, colorimetric reading, relation (AUSTIN, STADIE, and ROBINSON) 505
—, —, —, of serum, colorimetric reading, relation (AUSTIN, STADIE, and ROBINSON) 505
Irradiation:
Animal, antirachitic property of milk increased by (STEENBOCK, HART, HOPPERT, and BLACK) 441
Cholesterol, antirachitic value. IV (HESS, WEINSTOCK, and SHERMAN) 145
Milk, antirachitic property increased by (STEENBOCK, HART, HOPPERT, and BLACK) 441
Phytosterol, antirachitic value. IV (HESS, WEINSTOCK, and SHERMAN) 145
Rachitic diet, bone ash with (DUTCHER, CREIGHTON, and ROTHROCK) 401
— —, inorganic blood phosphorus with (DUTCHER, CREIGHTON, and ROTHROCK) 401
Ultra-violet light, effect on antirachitic properties of hays (STEENBOCK, HART, ELVEHJEM, and KLETZIEN) 425

K

Ketogenesis:
Body, animal, antiketogenesis in, oxidation of condensation products of acetoacetic ester, relation (WEST) 63

L

Lactic acid:
Depancreatized dog, formation by (WEBER, BRIGGS, and DOISY) 653
Larva:
Bee, body fluids. II (BISHOP, BRIGGS, and RONZONI) 77
Levo-suprarenin:
Metabolism, mineral, of lymph after injection (PETERSEN and HUGHES) 229

Light:
Ultra-violet, amount received by hens, amount of antirachitic vitamin in eggs produced, relation (HUGHES, PAYNE, TITUS, and MOORE) 595
—, calcium content of tissues with, effect of excessive calcium ingestion (DENIS and CORLEY) 609
—, — — of tissues without, effect of excessive calcium ingestion (DENIS and CORLEY) 609
—, irradiation with, effect on antirachitic properties of hays (STEENBOCK, HART, ELVEHJEM, and KLETZIEN) 425
Lipoid:
Acetone extract (HART and HEYL) 639
Blood, influence of pregnancy (TYLER and UNDERHILL) 1
Lymph:
Metabolism, mineral, after dextro-suprarenin injection (PETERSEN and HUGHES) 229
—, —, — levo-suprarenin injection (PETERSEN and HUGHES) 229
—, —, — pilocarpine injection (PETERSEN and HUGHES) 229
—, —, — pituitrin injection (PETERSEN and HUGHES) 229

M

Magnesium:
Excretion, after calcium chloride injection (GREENWALD and GROSS) 201
—, — — — and sodium phosphate injections (GREENWALD and GROSS) 201
—, — sodium phosphate injection (GREENWALD and GROSS) 201
—, — thyroparathyroidectomy (GREENWALD and GROSS) 185
—, effect of parathyroid extract (GREENWALD and GROSS) 217
Retention, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Mammal:
Rickets, leg weakness in growing chicks, relation (PAPPENHEIMER and DUNN) 717
Meat:
Protein, maintenance values (ROSE and MACLEOD) 847
Metabolism:
Mineral, of lymph after dextro-suprarenin injection (PETERSEN and HUGHES) 229
—, — — after levo-suprarenin injection (PETERSEN and HUGHES) 229
—, — — after pilocarpine injection (PETERSEN and HUGHES) 229
—, — — after pituitrin injection (PETERSEN and HUGHES) 229
Nitrogen, vitamin A deficiency on character (MORGAN and OSBURN) 573

Methemoglobin:
Formation (VAN SLYKE and VOLLMUND) 415
Gasometric determination (VAN SLYKE) 409
Microorganism:
Orange juice, vitamin C content, fermentation, effect with specific (LEPKOVSKY, HART, HASTINGS, and FRAZIER) 49
Tomato juice, vitamin C content, fermentation, effect with specific (LEPKOVSKY, HART, HASTINGS, and FRAZIER) 49
Milk:
Antirachitic property (STEENBOCK, HART, HOPPERT, and BLACK) 441
— —, increased by irradiation (STEENBOCK, HART, HOPPERT, and BLACK) 441
— —, — by irradiation of animal (STEENBOCK, HART, HOPPERT, and BLACK) 441
Bread and, protein, maintenance values (ROSE and MACLEOD) 847
Calcium, determination (CORLEY and DENIS) 601
Protein, maintenance values (ROSE and MACLEOD) 847

N

Nitrogen:
Cellulose decomposition, transformation in, by filamentous fungi (HEUKELEKIAN and WAKSMAN) 323
Excretion, effect of parathyroid extract (GREENWALD and GROSS) 217
Metabolism, vitamin A deficiency on character (MORGAN and OSBURN) 573
Retention, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Nutrition:
Chicken, requirement. VI (HART, STEENBOCK, LEPKOVSKY, and HALPIN) 813
Cystine and mineral elements in (WOODS) 57

O

Oocytin:
Properties and composition. II (CLARK and SHARP) 123
Orange:
Juice, calcium retention, effect on growing child (CHANEY and BLUNT) 829
—, magnesium retention, effect on growing child (CHANEY and BLUNT) 829
—, nitrogen retention, effect on growing child (CHANEY and BLUNT) 829
—, phosphorus retention, effect on growing child (CHANEY and BLUNT) 829

Orange—*continued:*
Juice, urinary organic acid, effect on growing child (CHANEY and BLUNT) 829
—, vitamin C content, fermentation, effect with specific microorganisms (LEPKOVSKY, HART, HASTINGS, and FRAZIER) 49
Organic acid(s):
Urinary, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Organism:
Animal, benzoylated amino acids. I (GRIFFITH) 671
—, — — —. II (GRIFFITH and CAPPEL) 683
Osmosis:
Bee larva, chemical constituents of blood, and their osmotic effects (BISHOP, BRIGGS, and RONZONI) 77
Oxidation:
Acetoacetic ester, condensation products (WEST) 63
— —, — —, relation to antiketogenesis in animal body (WEST) 63

P

Pancreatectomy:
Lactic acid, formation by depancreatized dogs (WEBER, BRIGGS, and DOISY) 653
Parathyroid:
Extract, effect on calcium excretion (GREENWALD and GROSS) 217
—, — — magnesium excretion (GREENWALD and GROSS) 217
—, — — nitrogen excretion (GREENWALD and GROSS) 217
—, — — phosphorus excretion (GREENWALD and GROSS) 217
Hormone. II (COLLIP and CLARK) 133
Pathogenesis:
Tetany (GREENWALD and GROSS) 217
Pentose:
Absorption from intestinal tract (CORI) 691
Phlorhizin:
Diabetes, influence of insulin. II (NASH) 869
—, — — — administered orally (GAEBLER and MURLIN) 731
—, — — — administered subcutaneously (GAEBLER and MURLIN) 731
—, mechanism (NASH) 869
Phosphorus:
Blood, inorganic, with irradiated rachitic diet (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, —, — normal diet (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, —, — rachitic diet (DUTCHER, CREIGHTON,

Phosphorus—*continued:*
and ROTHROCK) 401
Colorimetry (FISKE and SUBBAROW) 375
Excretion, after calcium chloride injection (GREENWALD and GROSS) 201
—, — — — and sodium phosphate injections (GREENWALD and GROSS) 201
—, — sodium phosphate injection (GREENWALD and GROSS) 201
—, — thyroparathyroidectomy (GREENWALD and GROSS) 185
—, effect of parathyroid extract (GREENWALD and GROSS) 217
Retention, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Phytosterol:
Irradiation, antirachitic value. IV (HESS, WEINSTOCK, and SHERMAN) 145
Pilocarpine:
Metabolism, mineral, of lymph after injection (PETERSEN and HUGHES) 229
Pituitrin:
Metabolism, mineral, of lymph after injection (PETERSEN and HUGHES) 229
pK′:
Henderson-Hasselbalch equation, hydrion concentration of serum (CULLEN, KEELER, and ROBINSON) 301
Plasma:
Hydrogen ion concentration, true, colorimetric reading, relation (AUSTIN, STADIE, and ROBINSON) 505
Pork:
Soft. I (ELLIS and HANKINS) 101
Pregnancy:
Blood, influence on lipoids (TYLER and UNDERHILL) 1
Protein:
Acid-base-, equilibrium, effect of temperature (STADIE, AUSTIN, and ROBINSON) 901
Alcohol-soluble, isolated from polished rice (HOFFMAN) 501
Bread and milk, maintenance values (ROSE and MACLEOD) 847
Histidine content (HANKE) 489
— in, quantitative estimation (HANKE) 475
Meat, maintenance values (ROSE and MACLEOD) 847
Milk, maintenance values (ROSE and MACLEOD) 847
Soy bean curd, maintenance values (ROSE and MACLEOD) 847
Tyramine in protein-containing mixtures, method for estimating (HANKE) 475
Tyrosine content (HANKE) 489

Protein—*continued:*
Tyrosine in, quantitative estimation (HANKE) 475
Vegetable, alcohol-soluble, immunological properties. IX (LEWIS and WELLS) 37
—, biological reactions (LEWIS and WELLS) 37

Q

Quinhydrone:
Electrode, hydrion concentration of feces determined by (ROBINSON) 811

R

Respiration:
Diabetes (RICHARDSON and LEVINE) 161
Retention:
Calcium, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Magnesium, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Nitrogen, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Phosphorus, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Uric acid, during fasting (LENNOX) 521
Rice:
Polished, alcohol-soluble protein isolated from (HOFFMAN) 501
Rickets:
Cholesterol, irradiated, antirachitic value. IV (HESS, WEINSTOCK, and SHERMAN) 145
Diet, irradiated rachitic, bone ash with (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, — —, inorganic blood phosphorus with (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, rachitic, bone ash with (DUTCHER, CREIGHTON, and ROTHROCK) 401
—, —, inorganic blood phosphorus with (DUTCHER, CREIGHTON, and ROTHROCK) 401
Hay, antirachitic properties, climatic conditions, relation (STEENBOCK, HART, ELVEHJEM, and KLETZIEN) 425
—, — —, effect of irradiation with ultra-violet light (STEENBOCK, HART, ELVEHJEM, and KLETZIEN) 425
Mammalian, leg weakness in growing chicks, relation (PAPPENHEIMER and DUNN) 717
Milk, antirachitic property (STEENBOCK, HART, HOPPERT, and BLACK) 441
—, — —, increase by irradiation (STEENBOCK, HART, HOPPERT, and BLACK) 441
—, — —, increase by irradiation of animal (STEENBOCK, HART, HOPPERT, and BLACK) 441

Rickets—*continued:*
Phytosterol, irradiated, antirachitic value. IV (Hess, Weinstock, and Sherman) 145
Substance, antiricketic. II (Bills) 451
Vitamin, antirachitic, amount in eggs produced, amount of ultraviolet light received by hens, relation (Hughes, Payne, Titus, and Moore) 595
—, antiricketic, action of *n*-butyl nitrite (Bills) 451

S

Serum:
Calcium in hypercalcemia (Moritz) 343
— — hypocalcemia (Moritz) 343
— phosphate solubility (Greenwald and Gross) 217
Carbon dioxide absorption curve of separated, influence of temperature (Stadie, Austin, and Robinson) 901
— — — — of true, influence of temperature (Stadie, Austin, and Robinson) 901
Hydrogen ion concentration, pK′ of Henderson-Hasselbalch equation for (Cullen, Keeler, and Robinson) 301
— — —, true, colorimetric reading, relation (Austin, Stadie, and Robinson) 505
Spectrum, ultra-violet absorption (Stenström and Reinhard) 819

Serum—*continued:*
sorption (Stenström and Reinhard) 819

Sodium phosphate:
Calcium excretion after injection (Greenwald and Gross) 201
— — — injection of calcium chloride and (Greenwald and Gross) 201
Magnesium excretion after injection (Greenwald and Gross) 201
— — — injection of calcium chloride and (Greenwald and Gross) 201
Phosphorus excretion after injection (Greenwald and Gross) 201
— — — injection of calcium chloride and (Greenwald and Gross) 201

Soy bean:
Curd, protein, maintenance values (Rose and MacLeod) 847

Spectrum:
Ultra-violet absorption, of amino acids (Stenström and Reinhard) 819
— —, — serum (Stenström and Reinhard) 819

Sugar:
Body, animal, fate in. I (Cori) 691
Urine, normal, excretion (Blatherwick, Bell, Hill, and Long) 801

Swine:
Fat, formation, on ration moderately low in fat (ELLIS and HANKINS) 101

T

Temperature:
Blood, whole, influence on carbon dioxide absorption curve (STADIE, AUSTIN, and ROBINSON) 901
Equilibrium, acid-base-protein, effect on, of (STADIE, AUSTIN, and ROBINSON) 901
Serum, separated, influence on carbon dioxide absorption curve (STADIE, AUSTIN, and ROBINSON) 901
—, true, influence on carbon dioxide absorption curve (STADIE, AUSTIN, and ROBINSON) 901

Tetany:
Pathogenesis (GREENWALD and GROSS) 217

Thyroparathyroidectomy:
Calcium excretion after (GREENWALD and GROSS) 185
Magnesium excretion after (GREENWALD and GROSS) 185
Phosphorus excretion after (GREENWALD and GROSS) 185

Tissue:
Calcium content, without ultra-violet light, effect of excessive calcium ingestion (DENIS and CORLEY) 609

Tissue—*continued:*
Calcium content, with ultra-violet light, effect of excessive calcium ingestion (DENIS and CORLEY) 609
—, determination (CORLEY and DENIS) 601

Tomato:
Juice, vitamin C content, fermentation, effect with specific microorganisms (LEPKOVSKY, HART, HASTINGS, and FRAZIER) 49

Tyramine:
Protein-containing mixture, method for estimating (HANKE) 475

Tyrosine:
Protein, content (HANKE) 489
—, quantitative estimation (HANKE) 475

U

Urea:
Formation, blood changes during digestion with reference to (MORGULIS) 353
Minute amounts, quantitative estimation (WEARN and RICHARDS) 275

Uric acid:
Retention during fasting (LENNOX) 521

Urine:
Glomerular, of frogs, chloride concentration in (WEARN and RICHARDS) 247

Urine—*continued:*
Organic acid, urinary, of growing child, effect of orange juice (CHANEY and BLUNT) 829
Sugar, normal, excretion (BLATHERWICK, BELL, HILL, and LONG) 801

V

Vacuum:
Extraction, gases in blood, determination by. III (VAN SLYKE) 409
Vegetable:
Protein, alcohol-soluble, immunological properties. IX (LEWIS and WELLS) 37
—, biological reactions (LEWIS and WELLS) 37
Vitamin(s):
XI (DUTCHER, CREIGHTON, and ROTHROCK) 401
Antirachitic, amount in eggs produced, amount of ultra-violet light received by hens, relation (HUGHES, PAYNE, TITUS, and MOORE) 595
Antiricketic, action of *n*-butyl nitrite (BILLS) 451
B, technique for studying (SMITH, COWGILL, and CROLL) 15
C, chicken requirement (HART, STEENBOCK, LEPKOVSKY, and HALPIN) 813
— content of orange juice, fermentation, effect with specific microorganisms (LEPKOVSKY, HART, HASTINGS, and FRAZIER) 49
— — — tomato juice, fermentation, effect with specific microorganisms (LEPKOVSKY, HART, HASTINGS, and FRAZIER) 49
Fat-soluble. XXVI (STEENBOCK, HART, HOPPERT, and BLACK) 441
Nitrogen metabolism, vitamin A deficiency on character (MORGAN and OSBURN) 573